Education Event Report
GIS Day 2005

Report Author:
Joseph Kerski, Geographer, USGS

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Summary

USGS scientists and information specialists hosted a **GIS Day event** at the Rocky Mountain Mapping Center in Denver, Colorado USA. The event attracted 75 GIS professionals from nonprofit, government, and private industry, and 300 K-12 students from Colorado private and public schools. The students ranged in age from 6 to 15.

The event was structured so that attendees could participate in the following activities:

1) Workshop in Interpreting Topographic Maps, Satellite Images, and demonstration of Geographic Information Systems

2) Map, Aerial Photograph, and Satellite Image Quiz and Contest

3) Geocaching activity with GPS

4) Tour of the USGS Digital Data Production and research facilities

5) Tour of the USGS Map and Book Distribution Facility

6) Tour of the National Ice Core Laboratory

7) Tour of the National Rock Core Research Center.

The activities were set up conference style with each one lasting about 50 minutes. Most groups stayed for three to four hours.

School buses arriving at the USGS.

What is GIS Day?

GIS Day (www.gisday.com) is a grassroots event that formalizes the practice of geographic information systems (GIS) users and vendors of opening their doors to schools, businesses, and the general public to showcase real-world applications of this important technology. The event is principally sponsored by the National Geographic Society, the Association of American Geographers, University Consortium for Geographic Information Science, the USGS, The Library of Congress, Sun Microsystems, and ESRI.

This is the 7th year that GIS Day has occurred, and we have participated during all seven years. In 2004, thousands of organizations hosted GIS Day events in more than 100 different countries, and we hosted 900 students and 100 teachers in our facility. Through the combined efforts of GIS Day participants, millions of children and adults have learned about GIS technology through geography, and how it affects our everyday lives.

This scene was repeated all day long—big crowds, happy faces, learning about our world!

USGS staff greets participants and organize groups.

Students and Joseph Kerski pose under USGS GIS Day banner.

The first participants arrive on the campus of the Denver Federal Center for GIS Day.

USGS communications specialist Heather Friesen, right, meets with one of the two

reporters who visited during the event.

We had an excellent article with photographs written about the event in the Jefferson Sentinel, on:

http://www.milehighnews.com/1editorialbody.lasso?-token.folder=2005-11-24&-token.story=144970.112112&-token.subpub=

GIS Day Announcement

Announcement of GIS Day Event that I posted on www.gisday.com during the summer of 2005:

> Do you love maps and GIS? The USGS Mapping facility in Denver is the place to be on GIS Day! Come tour the building where over 30,000,000 maps, posters, books, and digital data are shipped to data users around the world. After the tour, examine USGS maps, aerial photographs, and satellite images in our hands-on workshop! After the mapping workshop, we will do some real geographic field work, where we seek out and find several geocaches that have been hidden on the Denver Federal Center. For more information, contact: Joseph Kerski, USGS Geographer, at jjkerski@usgs.gov.

Map and Book Distribution Facility Tour

Above, Gene Jackson, right, explains features on the Colorado 3D map and how it was made.

Above, students create their own "seismic wave" by jumping near a detector and seeing the wave displayed on a monitor.

Many people spent time in the Central Region USGS Visitors Center, examining

the information and displays about urban growth, natural hazards, recreation, and biodiversity. We also have a 3D model of Colorado and a T-Rex footprint cast in the visitors center, so there is much to see.

Walking toward the 30 million maps in the USGS distribution facility. This is the largest single depository of maps in the world.

We gave away books, booklets, posters, lesson plans, guidelines, maps, and CD-ROMs during the event, from the USGS. People definitely did not walk away empty handed!

GIS, Map, Aerial, and Satellite Image Interpretation Workshop

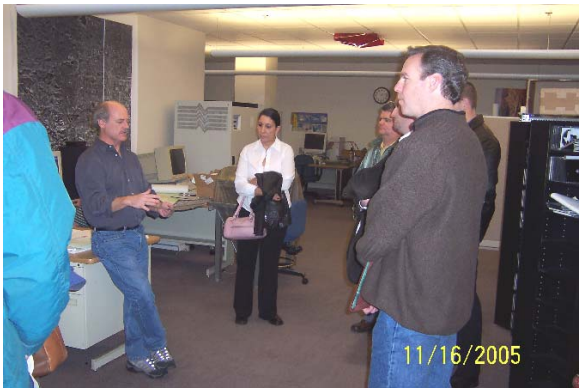
Above, Joseph Kerski and Lisa Rukstales conduct hands-on map and satellite image interpretation, ending with a demonstration of what GIS is and how it works.

Students examining topographic map. I was amazed at the skill level that they had. I commend the teachers for working with them on these topics, and commend the students for their inquisitiveness and knowledge!

Digital Data Production and Research Tour

Above, Pete Schneider explains how Digital Elevation Models are created.

The digital data section of the tour included stops where digital orthophotoquads, digital elevation models, national hydrography dataset, and the national land cover data.



Above, USGS cartographer Dana Shippy, left, explains how the USGS produces digital orthophotoquads.

National Ice Core Lab Tour

Above, USGS scientist Todd Hinkley explains the mission of the National Ice Core Laboratory, why ice core is a good recorder of climate change, and how the ice core is sampled, transported, and studied, and what it tells us about ancient and current climate and rates of change. Below, participants walk through the examination section of the lab.

Above, USGS geologist Pete Modreski guides participants through the Ice Core Lab, explaining what the researchers in the facility do, and why.

Fortunately, we have a large 17 acre facility, capable of handling the volume of people that we had in our building during GIS Day.

Nobody froze, and everyone is still happy! Students emerging from the Ice Core Laboratory, where ice is stored at -40 C.

Rock Core Research Center Tour

Rock Core scientist, left, gives an explanation of geology, rocks, minerals, and the USGS Rock Core Research Center. The Core Research Center is the world's largest single facility of its kind.

GPS Geocaching Event

Before the geocaching began, and while it was occurring, USGS staffpersons such as Eugene Rodgers, left, helped the students navigate with their GPS units and understand concepts of coordinate systems.

*Our staff worked with the students not only to find the geocaches, but to understand the concepts and the technology behind GPS. Ultimately, we wanted them to understand **why** we are interested in the locations of things—and how they might be able to use this technology on the job in the future.*

Students spread out all over the area west of our building, but were quite engaged in the topic and we received many positive comments from all who participated.

Students looking for the first geocache.

Map and Satellite Image Quiz Contest, and Map Adventures Activity

Above, USGS information specialist Kim Tompkins works with students on a series of contests based on examining maps and satellite images. Shawna Crocker also conducted mapping workshops based on the USGS activity "Map Adventures."

Observations

This was the second largest GIS Day that we have held here at the USGS in Denver. We received scores of positive comments during the day and are still receiving accolades weeks later from people indicating that they (1) are now excited to study or to teach with GIS; (2) previously had no idea that geography and GIS were so important to our society; and (3) had a new appreciation for the USGS. An event this size would not have been possible without the help of many people (see acknowledgements).

The event was an excellent one also for renewing educational and GIS contacts and for forming new ones. During the day I met with Ted Piper, who is organizing a GIS Visualization Summit to be held at the University of Denver in April 2006.

Acknowledgements

(1) I would like to thank everyone who attended this year event for their enthusiasm. I realize how difficult it is to get students off campus, and I appreciate the efforts that these teachers made to do so, and for the students for their interest and energy.

(2) I thank ESRI's Maria Jordan and Esther Worker for coming through once again with GIS Day materials and for their enthusiasm and support of GIS not only on GIS Day, but throughout the entire year. We were featured in the GIS Day Heroes newsletter:

http://www.gisday.com/heroes.html

… but I really think that this is a team effort!

(3) I thank the dozens of USGS staffpersons who helped with the event in planning, giving tours, workshops, and helping in many other ways, particularly Laurie Jasso.

These included people from all four disciplines of the USGS—biology, geography, geology, and water resources. I am ***still*** hearing about dozens of last-minute changes that they made and extra effort they went to in order to keep things running smoothly and to ensure that everyone had a positive experience.

USGS helpers included: Steve Char, Shawna Crocker, Karen Eberhardt, Peggy Ellis, Karen Fritts, Heather Friesen, Ken Gerson, Susan Guthrie, Melanie Hood, Gene Jackson, Sherry Jackson, Laurie Jasso, Joseph Kerski, Janelle Leyba, Pete Modreski, Mike Mulligan, Eugene Rodgers, Lisa Rukstales, Richard Shields, Dana Shippy, Pete Schneider, Sharon Shin, Mark Thorp, Kim Tompkins, Kirk Volkel, and

Steve Vandas. I am sure there were more that are not in this list, and know that I am appreciative of their help as well.

This event required a great deal of logistical planning, and as some of the events could not handle more than 30 people, we assigned specific stops for each group. However, everyone seemed pleased with the outcome, even if everyone didn't see the same thing. I hope they traded stories about what they saw and learned.

We assigned a USGS tour guide to remain with each group of 30 to 35 students throughout their stay at the USGS. I'm happy to report that everyone made it back to their school safely! I thank the excellent team we had to plan it and carry it forward to successful completion.

Goodbye! We hope you had fun and learned something valuable. Get out there and explore and learn about the world!

End of report